

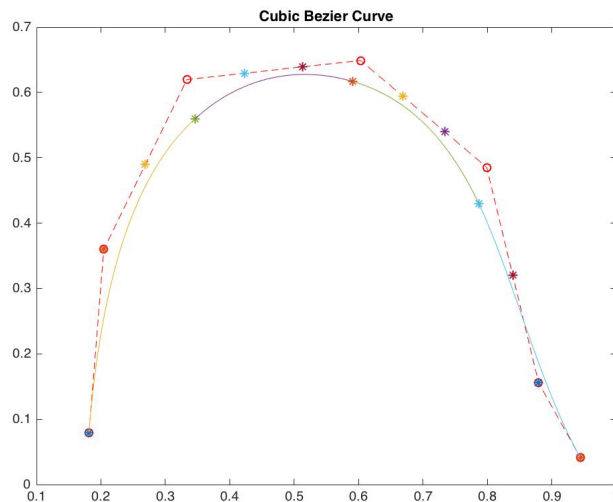
# PROJECT 1: READ ME FILE

Francine Leech, Reffat Manzur, Chen Xiang

## P1

(1) The *CubicBezier.m* plots a cubic spline specified by a sequence of de Boor controls points from the user. The user presses enter to indicate all the desired points have been selected.

For example if we input 7 points, the graph we get is:



## P2

(2) The *drawDE.m* uses the de Casteljau subdivision method and yields a polygonal line which approximates *Bezier curve*. The variable  $n$  is the number of iterations and  $t$  is the size of the subdivision. The user presses enter to indicate all the desired points have been selected.

For example if we input  $n = 5$ ,  $t = \frac{1}{2}$  and a series points through screen:

```
n = 5;  
t = 1/2;  
%% User input of the data
```

```

[x,y] = ginput();
d = [x,y]; % d(i,:) i = 1,2,... represents a point
d = sortrows(d); % sort our data
%% Run the subdivision and draw curve
b = calculateDE(d, n, t);
% calculate the points used to draw the curve
b = sortrows(b); % sort our data
plot(d(:,1), d(:,2), 'r*'); % draw the input data d
hold on;
plot(b(:,1), b(:,2), 'b-') % draw our curve
title('Bezier_Curve')

```

Then we can get the graph:

